What is claimed is:

1. A dual slot valve for use in a semiconductor process cluster tool architecture arrangement, the dual slot valve comprising:

a housing having a first side and a second side, the housing having a first slot at the first side and a second slot at the second side for passing a substrate between a first module and a second module, the first module being attached to the first side of the housing and the second module being attached to the second side of the housing;

a first door being movably mounted within the housing to enable closure of the first slot;

a second door being movably mounted within the housing to enable closure of the second slot; and

a common actuator connected to each of the first and second doors for selectively and separately moving either of the first and second doors to close the respective slot.

2. A dual slot valve for use in a semiconductor process cluster tool architecture arrangement as recited in claim 1, wherein the common actuator has a central position, and wherein when the common actuator is in the central position each of the first door and the second door is placed in an open position that is spaced from and between each of the first slot and the second slot, the valve further comprising:

a bias assembly for providing releasable forces to hold the common actuator in the central position so that the first door and the second door are releasably held in the open position.

3. A dual slot valve for use in a semiconductor process cluster tool architecture arrangement as recited in claim 2, further comprising:

a door drive unit for overcoming the releasable force and moving a selected one of the first and second doors into the respective closed position, wherein the door drive includes two separate drives, each of the separate drives being connected to the common actuator.

4. A dual slot valve for use in a semiconductor process cluster tool architecture arrangement as recited in claim 3, wherein one of the two drives causes the common actuator to jointly move the first and second doors along an extend-retract path to and from the respective open positions, and wherein another of the two drives causes the common actuator to overcome one of the releasable forces to move the one of the first and second doors in a second path from the respective open position into the respective closed position.

5. A dual slot valve according to claim 3, wherein the door drive unit discontinues overcoming the one releasable force when neither of the first and second doors is to be in the respective closed position, and wherein the bias assembly is

effective upon the door drive unit discontinuing overcoming the releasable force to provide the releasable force to hold the common actuator in the central position.

6. A dual slot valve according to claim 2, wherein the common actuator has opposite first and second sides, the bias assembly further comprising:

a separate resilient unit provided on each of the first and second sides of the common actuator, each of the resilient units providing one of the releasable forces, the releasable forces of the separate resilient units normally being in force equilibrium to hold the common actuator in the central position so that the first door and the second door are releasably held in the open position.

7. A dual slot valve according to claim 1, wherein the first and second doors are each elongated to overlap the respective slot and have a center in the middle of a longer side of the doors, and wherein the common actuator is attached to the first door and to the second door at a location that is at the center of each respective door.

8. A method of making a dual slot valve for use in a semiconductor process cluster tool architecture arrangement, the method comprising the operations of:

providing a housing having a first side and a second side, the housing having a first slot at the first side and a second slot at the second side for passing a substrate between a first module and a second module;

attaching the first module to the first side of the housing;

attaching the second module to the second side of the housing;

mounting a first door for movement along a first linear path within the housing to enable closure of the first slot;

mounting a second door for movement along the first linear path within the housing to enable closure of the second slot; and

connecting a common actuator to each of the first and second doors for selectively and separately moving either of the first and second doors to close the respective slot.

9. A method according to claim 8, further comprising:

the connecting operation providing a central position for the common actuator;

when the common actuator is in the central position, each mounting operation placing each of the first door and the second door in an open position that is spaced from and between each of the first slot and the second slot; and

biasing the common actuator with opposing releasable forces to releasably hold the common actuator in the central position so that the first door and the second door are releasably held in the respective open positions.

10. A method of operating the dual slot valve made according to claim 9, further comprising the operation of:

overcoming one of the opposing releasable forces to move the common actuator and cause one of the first and second doors to move into the respective closed position.

11. A method of operating a dual slot valve made according to claim 9, further comprising the operation of:

during the biasing operation with the first and second doors in the respective open positions, moving the first and second doors along a second path from between each of the first slot and the second slot to permit servicing of the housing along a direct line of sight between the first and second slots.

12. A method according to claim 10, further comprising the operation of:

discontinuing overcoming the one releasable force when neither of the first and second doors is to be in the respective closed position, and

upon completion of the discontinuing operation, resuming the biasing operation with the opposing releasable forces to releasably hold the common actuator in the central position.

13. In a semiconductor process cluster tool architecture, a method for operating a dual slot valve that is interfaced between a first module and a second module, the dual slot valve having a first slot and a second slot for passing a substrate

between the first module and the second module, the method comprising the operations of:

providing a first door and a second door within the dual slot valve for enabling closure of the respective first and second slots;

mounting the first door and the second door to a common actuator; and

applying a slot closure force to the common actuator to move the common actuator toward one of the first and second slots to cause the door corresponding to the one slot to close the one slot and to allow the door corresponding to the other slot to keep the other slot open.

14. A method according to claim 13, further comprising:

removing the slot closure force from the common actuator; and

applying a pair of balanced opposing forces to the common actuator to move the common actuator and the doors to a position between and spaced from each of the first slot and the second slot.

15. A method according to claim 14, further comprising:

moving the common actuator and the first door and the second door from the position between and spaced from the first and second slots.

16. A dual slot valve for use in a semiconductor process cluster tool architecture arrangement provided with a process module and a transport module, the dual slot valve comprising:

a vacuum body having a first process module side and a second transport module side, the vacuum body having a process module slot at the first side and a transport module slot at the second side for passing a substrate between the process module and the transport module, the process module being attached to the first side of the body and the transport module being attached to the second side of the body, the first side of the body having a first wall surface and the second side of the body having a second wall surface;

an actuator having a door-mount end movable in the body toward and away from each of the process module slot and the transport module slot along a closure path, the door-mount end being movable away from the body along an access path that is generally perpendicular to the closure path to provide a line of clear sight between the process module slot and the transport module;

a first door 222-1 mounted to the door-mount end of the common actuator for movement along the closure path to open and close the process module slot, the first door

being mounted by the common actuator for movement along the access path between an up position and a down position, the up position being parallel to and away from the first wall surface of the body to permit accessing of the first wall surface;

a second door 222-2 mounted to the door-mount end of the common actuator for movement along the closure path to open and close the transport module slot, the

second door being mounted by the common actuator for movement along the access path between an up position and a down position, the up position being parallel to and away from the second wall surface of the body to permit accessing of the second wall surface; and

a dual acting actuator 232 mechanism having a first drive for moving the door-mount end of the actuator in the body toward and away from each of the process module slot and the transport module slot along the closure path, the actuator mechanism having a second drive for moving the actuator door-mount end away from the body along the access path.

17. A dual slot valve according to claim 16, further comprising:

the actuator having a bias-drive end opposite to the door-mount end, the actuator being mounted for rotation on an axis between the bias-drive end and the door-mount end; and

a dual-acting resilient bias mechanism attached to the bias-drive end of the actuator for resiliently holding the door-mount end of the actuator between and away from each of the process module slot and the transport module slot along the closure path.

18. A dual slot valve according to claim 16, further comprising:

a controller for separately controlling the first drive and the second drive; and

a computer workstation connected to the controller for enabling the first door to be in other than the closed position for servicing the process module at the same time as the second door is in the closed position to allow the transport module to operate other than in a service mode.

19. A dual slot valve according claim 18, further comprising:

the body having a door-access port to facilitate servicing the doors; and

the computer workstation comprising computer program instructions to cause the controller to operate the dual acting actuator mechanism and move the first door and the second door along the access path to the up position, and to move the first door along the closure path into an open position , and to move the second door along the closure path to close the second slot, in the up position with the first door in the open position the first door being in a position to be replaced with a clean door supplied through the door-access port.

20. A dual slot valve according to claim 18, further comprising:

the actuator having a bias-drive end opposite to the door-mount end, the actuator being mounted for rotation on an axis between the bias-drive end and the door-mount end;

a dual-acting resilient bias mechanism attached to the bias-drive end of the actuator for rotating the bias drive end of the actuator on the axis to releasably hold

the door-mount end of the actuator in a between and away position away from each of the process module slot and the transport module slot along the closure path;

the vacuum body having a door-access port to facilitate access to the vacuum body; and

the computer workstation comprising computer program instructions to cause the controller to operate the dual acting actuator mechanism and allow the bias mechanism to releasably hold the door-mount end in the between and away position and to move the first door and the second door along the access path to the down position to enable servicing of the first and second wall surfaces through the access port.

21. A dual slot valve for use in a multi-chamber vacuum system, the dual slot valve comprising:

a housing having a first side and a second side, the housing having a first slot at the first side and a second slot at the second side for passing a substrate between a first chamber and a second chamber, the first chamber being attached to the first side of the housing and the second chamber being attached to the second side of the housing;

a first door being movably mounted within the housing to enable closure of the first slot;

a second door being movably mounted within the housing to enable closure of the second slot; and

a common actuator connected to each of the first and second doors for selectively and separately moving either of the first and second doors to close the respective slot.